APPENDIX 8-B

FORMAT FOR A SITE HEALTH & SAFETY PLAN

INTRODUCTION

A Site Health & Safety Plan should be prepared for all activities taking place at a UST site, including UST closure, preliminary site characterization, release investigation activities, release response, and followup monitoring. The purpose of preparing a site-specific Site Health & Safety Plan is to protect personnel and the general public from physical hazards and health hazards associated with exposure to specific contaminants known or suspected to be present on the site. Procedures for handling emergencies, injuries, and exposure to personnel are included in the Site Health & Safety Plan, along with guidelines for appropriate and safe use of personal protective equipment (including decontamination procedures for equipment and personnel). The following discussion specifies the content of a Site Health & Safety Plan. Table 8B.1 outlines the sections to be included in a Site Health & Safety Plan.

GENERAL INFORMATION

The general information provided in the this section of the Site Health & Safety Plan includes the site name and location, site contact person, and the name of the person approving the Site Health & Safety Plan.

This section also includes a brief description of the activities to be performed onsite that will be covered by the Site Health & Safety Plan and the appropriate dates on which the activities will be occurring. The Site Health & Safety Plan is specific to the site; however, an existing site-specific Site Health & Safety Plan may be modified accordingly for subsequent activities (e.g., a second round of sampling at the site). If a particular Site Health & Safety Plan is a modification of an earlier Site Health & Safety Plan for the site, this should be indicated and the modification number given.

SITE/HAZARD OVERVIEW

The nature and degree of hazards which may be encountered onsite are discussed in this section.

A. Apparent hazard: The overall degree of hazard anticipated onsite should be indicated as serious, moderate, low, none, or unknown. This rating is based on the levels of contamination suspected or known to be present at the site, nature of the contaminants, and presence of other physical hazards, manmade or natural.

B. Type of facility: The facility type should be classified as an impoundment, dump, landfill, open area, enclosure, or other.

Table 8B.1 Health & Safety Plan Outline

GENERAL INFORMATION
SITE/HAZARD OVERVIEW
SITE DESCRIPTION AND HISTORY
PLANNED SITE ACTIVITIES
HAZARD EVALUATION
SITE SAFETY WORK PLAN Health & Safety Responsibilities for Key Personnel Medical Requirements Training Requirements General Safety Requirements Surface Water Sampling Safety Requirements Perimeter Establishment Personal Protective Equipment Monitoring/Surveillance Equipment Air Monitoring Action Levels Explosive Concerns
WORK ZONES Decontamination Personnel Decontamination Equipment Decontamination Work Derived Waste
EMERGENCY INFORMATION
FIRE CONTINGENCY
HAZARDOUS MATERIAL RELEASE CONTINGENCY
ONSITE INJURY CONTINGENCY
SAFETY EQUIPMENT CHECKLIST
PLAN APPROVAL
APPENDICES Glossary Material Safety Data Sheets Confined Space Entry Procedures Hazardous Materials Exposure Report

C. Status of facility: Facility status may be active, inactive, or unknown.

D. Waste type: The nature of the waste should be indicated, i.e., gas, liquid, sludge, solid, unknown, or other. Also indicate the class of the waste, such as spent solvent, used oil, contaminated soils, etc.

E. Waste characteristics: The anticipated or known hazards associated with the wastes present onsite should be indicated. Examples of waste characteristics are toxicity, corrosivity, ignitability, volatility, radioactivity, and reactivity.

F. Type/form of hazard: The physical state of the contaminants present affects the nature and degree of hazard to personnel. The presence of dusts, liquids, fumes, or vapors should be indicated. Also, contact, respiratory, and immediately dangerous to life and health (IDLH) hazards should be identified.

SITE DESCRIPTION AND HISTORY

The site description and history cover the past and present activities known to have occurred on the site, ownership of the site, physical layout of the site, and previous investigative or cleanup activities that have been completed on the site. The neighborhood surrounding the site is completely described.

PLANNED SITE ACTIVITIES

A complete description of the activities to be performed onsite that are covered by the Site Health & Safety Plan should be given in this section.

HAZARD EVALUATION

The anticipated hazards of concern to workers and the public should be listed in this section and precautionary measures discussed. The hazards of exposure through inhalation, skin contact, and ingestion are rated as high, moderate, low, or unknown. Based on the nature of the hazards anticipated, an overall hazard rating of high, medium, low, or unknown should be assigned and a justification for the rating selected given.

This section should also discuss the contaminants of concern known or suspected to be present at the site. A chemical hazard summary table should be prepared, listing the permissible exposure level (PEL), the threshold limit value (TLV), and/or the IDLH value, the routes of exposure, and the effects of exposure. Information on PELs, TLVs, IDLHs, routes of exposure, and effects of exposure can be found in the National Institute for Occupational Safety and Health (NIOSH) Pocket Guide to Chemical Hazards, the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values and Biological Exposure Indices, the Department of Transportation Emergency Response Guidebook, and the Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities prepared by NIOSH, the Occupational Safety and Health Administration (OSHA), the United States Coast Guard (USCG), and the USEPA.

SITE SAFETY WORK PLAN

The work team that will be present at the site should be identified and their roles defined in this section. The Project Coordinator should designate a Site Manager or a Site Safety Officer to coordinate the work and be responsible for the implementation of the Site Health & Safety Plan onsite. The Site Manager or Site Safety Officer is to be informed of all accidents and emergencies and should keep a logbook of health and safety related issues. The regulatory authority supervising the work and any subcontractors participating in the activities onsite should also be identified in this section.

The medical and training requirements for all personnel who will be onsite are included in this section. Medical monitoring and training programs are specified in 29 CFR 1910. At least one team member should be certified in Cardio Pulmonary Resuscitation (CPR) and First Aid. Safety meetings are to be held each morning before beginning the work for that day.

General safety requirements are also specified in this section.

A sketch of the site should be included in the Site Health & Safety Plan showing the location of the site boundaries. The contamination area should be cordoned off with "Caution: Do Not Enter" tape or signs.

The level of personal protective equipment required for all work on the site is based on the degree of hazard anticipated. The levels of protection, A, B, C, and D, are discussed in the "Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities." The appropriate level of protection is stated in this section along with the necessary equipment. A contingency plan for upgrading to the next level of protection, if necessary, should be included.

Monitoring and surveillance equipment should be used onsite to alert workers to any potential hazards. Air monitoring equipment is used to identify and/or quantify airborne contaminants in order to determine the level of worker protection needed. Monitoring equipment that is available for this task includes HNu analyzers, organic vapor analyzers with gas chromatograph (OVA/GC), Draegar tubes, metal detectors, combustible gas indicators (CGI) with an oxygen detector, radiation survey meters, and digital dustmeters. These instruments have different uses in the field. The HNu analyzer is a photoionization detector that identifies the presence of organic vapors in the atmosphere. The OVA/GC is also used for identifying the presence of organic vapors, but with the use of the gas chromatograph, specific compounds can be identified. Draeger tubes are used for the positive identification of particular compounds, but provide only a semi-quantitative analysis of those compounds. Combustible gas meters with oxygen detectors are important for measuring the quantities of combustible, flammable, or explosive gases or vapors in the environment, and for identifying oxygen-rich or oxygen-deficient atmospheres. Metal detectors, radiation survey meters, and digital dustmeters may also be useful for monitoring for hazardous levels of metals, radiation, or dust.

Selecting the appropriate air monitoring equipment is based on knowledge of the suspected or known contaminants at the site. Different equipment is appropriate in different situations. The Occupational Safety and Health Administration Guidance Manual for Hazardous Waste Site Activities or other references should be consulted for guidance in the selection and use of air monitoring equipment.

After the air monitoring equipment is selected, action levels should be developed. Action levels for air monitoring are specific concentrations detected by each instrument that are used as a guide by field personnel to upgrade to the next level of personal protective equipment or to evacuate the site. The site should be monitored for contaminants migrating offsite and necessary alert and response actions stipulated.

WORK ZONES

Work zones including contamination or "hot" zones, a decontamination zone, and a clean zone should be established and indicated on a site map. Barrier tape or signs are used to isolate the work zones. Procedures for dealing with non-project related observers onsite should be covered in this section.

Decontamination procedures for both personnel and equipment should be detailed in the discussion for this section. Handling of work derived wastes including used personal protective equipment, rinse water, and soil cuttings should be included.

EMERGENCY INFORMATION

The name and phone number of an ambulance company, the closest hospital, the poison control center, the local police and fire departments, and a site contact person should be listed. Emergency contacts within any contractor or subcontractor firms should also be included. Directions to the nearest hospital including a route indicated on a map should be included in the Site Health & Safety Plan.

FIRE CONTINGENCY

Procedures for responding to fire emergencies should be presented in this section.

HAZARDOUS MATERIAL RELEASE CONTINGENCY

Procedures to follow for hazardous materials releases or exposures should be specified, including procedures for notification of the U.S. National Response Center. This includes contingencies to protect the public as well as site workers.

ONSITE INJURY CONTINGENCY

This section should present the steps to follow for responding to injuries that may occur onsite.

SAFETY EQUIPMENT CHECKLIST

The safety equipment that is required for proceeding with work on the site should be listed, including additional equipment for upgrading to the next level of worker protection, if it becomes necessary.

PLAN APPROVAL

The Site Health & Safety Plan should be signed by the person preparing the plan and by the parties responsible for approving the plan. A signature sheet is included which each member of the work team should sign, indicating that he or she has read and is familiar with the Site Health & Safety Plan for the work to be conducted at the site.

APPENDICES

A glossary of terms used in the Site Health & Safety Plan may be included as an appendix. Material Safety Data Sheets for the contaminants known or suspected to be present on the site should be included in an appendix. Confined space entry procedures and a hazardous materials exposure report form may also be included in the appendices.